REMARKS

Claims 1-3, 5 and 6 were pending. Claims 2, 5 and 6 have been amended and claim 1 has been cancelled. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification, including page 13, lines 3-4 of the specification. Applicants submit that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

Claims 1-3 and 6 were rejected under 35 U.S.C. § 112, first paragraph. Applicants submit that the new matter rejection is moot since the phrase identified by the Examiner has been deleted from the claims.

Moreover, Applicants offer the following remarks for consideration by the Examiner.

With the present Luneberg lens structure, the content of a gas in a dielectric foamed layer is uniformized to improve the uniformity of the dielectric constant. Therefore, it is possible to provide a Luneberg lens having high gain and low sidelobes. In particular, with respect to the sidelobes, it is possible to provide the lens that has such small deviation as can sufficiently satisfy the stringent recommended values required for the receiving antenna. See page 18, lines 5-12 of the specification.

The Luneberg lenses of the present subject matter are classified as filler-containing lenses according to the description provided in the specification at page 3, lines 18-20. As the expansion ratio of the dielectric layer could be increased by adding a filler, it is possible to

produce a layer having a dielectric constant of 1.7 of more, in theory. furthermore, adding a filler allows the weight reduction of the lenses. However, with the three components: an olefin, and inorganic filler having a high dielectric constant, and a gas, a dielectric composite having uniform electrical characteristics cannot be made because the significant differences of their relative densities: 0.9, 4 to 5 make it difficult to homogenously mix the components ; and because nonuniform mixing, which results in nonuniform electrical characteristics, is caused by the significant differences in the relative dielectric constants of these components: i.e., the dielectric constants of the olefin resin, the inorganic filler, and the gas are 2 to 3, 100 or more, and 1, respectively. Consequently, a dielectric composite having the uniformity of the electrical characteristic could not be provided. therefore, it was difficult to produce a satisfactory Luneberg lens that have small deviations with respect to the gain and sidelobes, and are in practical use.

The inventors of the present application found an electrically uniform dielectric being formed when the concentration of the inorganic filler having a high dielectric constant is within a range of ±0.5% with reference to the designed concentration and the size of each pellets formed by mixing of the resin and the filler is 1/4 or less of the wavelength of the electromagnetic wave used. Hereby, the present subject matter provides the lens that has such small deviations with respect to the sidelobes as can sufficiently satisfy the stringent recommended values required for the receiving antenna.

Turning to the prior art, Peters neither teaches nor suggests the present claimed subject matter with which an electrically uniform dielectric can be formed when the concentration of the inorganic filler having a high dielectric constant is within a range of ±0.5% with reference to the designed concentration and the size of each pellet formed by mixing of the resin and the filler is

1/4 or less of the wavelength of the electromagnetic wave used. In addition, Peters shows that it is essential to form particles of various sizes. Meanwhile, Anderlind only discloses uniform cutting to obtain uniform particles in size.

The Examiner asserted in the Office Action dated April 16, 2009 that it could have been obvious to one of ordinary skill in the art to modify Peters with the bead making process of Anderlind, motivated by the desire to obtain improved bead size uniformity for improved molded foam quality. However, the proposed combination would be against Peter's stated objective. Peters invention could never be created if it is combined with the uniform cutting process of Anderlind since the essential feature of the invention set forth in Peters is that the particles of various sizes are formed. It has been repeatedly held that one having ordinary skill in the art can not be presumed realistically motivated to modify a reference in the manner inconsistent with the disclosed objectives. *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); In *re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); *In re Schulpen*, 390 F.2d 1009, 157 USPQ 52 (CCPA 1968).

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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